

App. No. 10/750,520

Response to Office Action dated November 1, 2005

Amendments to the Claims:

1 to 12. (canceled).

13. (currently amended) A method for consolidating a shaped nanophase aluminum powder, comprising the steps of:

encompassing said shaped nanophase aluminum powder with a flowable pressure transmitting medium that is heated to a first temperature;

compressing said heated medium at said first temperature to at least about 100,000 psi and thereby consolidating said shaped nanophase aluminum powder;

heating said medium to a second temperature that is between about 700 °F and about 1000 °F, and that is higher than said first temperature; and

compressing said heated medium at said second temperature to at least about 100,000 psi and thereby further consolidating said shaped nanophase aluminum powder.

14. (canceled).

15. (previously presented) The method according to claim 13, wherein said second temperature ranges between about 775 °F and about 875 °F.

16. (original) The method according to claim 13, wherein said first temperature ranges between about 700 °F and about 1000 °F.

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17. (original) The method according to claim 16, wherein said first temperature is about 700 °F.

18. (previously presented) The method according to claim 13, wherein each of said compressing steps comprises mechanically compacting said heated medium to consolidate said powder.

19. (original) The method according to claim 18, wherein said mechanically compacting is performed using a hydraulic press.

20. (previously presented) The method according to claim 13, wherein said shaped powder is shaped by enclosing said powder in a container, said powder remaining enclosed in a said container during said encompassing step during which said container is also encompassed with said medium.

21. (original) The method according to claim 20, wherein said container is formed of a material that is sufficiently thin to have a negligible effect on consolidating said powder when said medium is compressed.

22. (original) The method according to claim 13, further comprising:

prior to said consolidating step, cryomilling and degassing said powder.

23 to 24. (canceled).

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25. (previously presented) The method according to claim 13, wherein said shaped powder is a preform mass.

26. (new) A method for consolidating a shaped nanophase aluminum powder, comprising the steps of:

encompassing said shaped nanophase aluminum powder with a flowable pressure transmitting medium that is heated to about 700 °F;

compressing said heated medium at said first temperature and thereby consolidating said shaped nanophase aluminum powder;

heating said medium to a second temperature that is between about 700 °F and about 1000 °F, and that is higher than said first temperature; and

compressing said heated medium at said second temperature and thereby further consolidating said shaped nanophase aluminum powder.

27. (new) The method according to claim 26, wherein said shaped powder is a preform mass.

28. (new) The method according to claim 26, wherein said second temperature ranges between about 775 °F and about 875 °F.

29. (new) The method according to claim 26, further comprising:

prior to said consolidating step, cryomilling and degassing said powder.